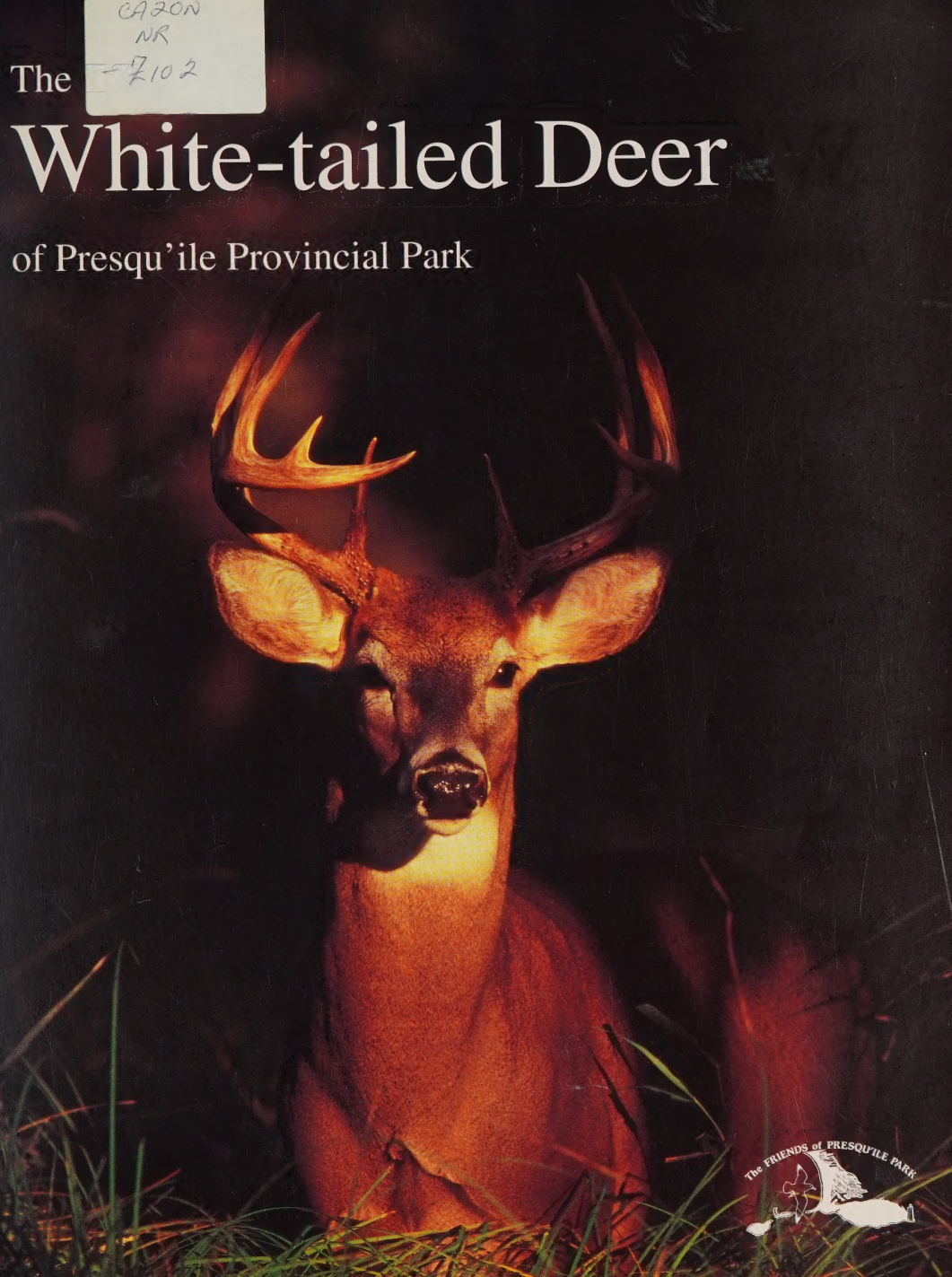
The White-tailed Deer

of Presqu'ile Provincial Park



The FRIENDS of PRESQU'ILE PARK

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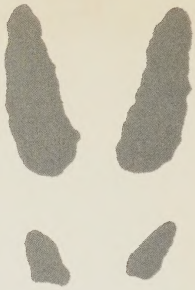

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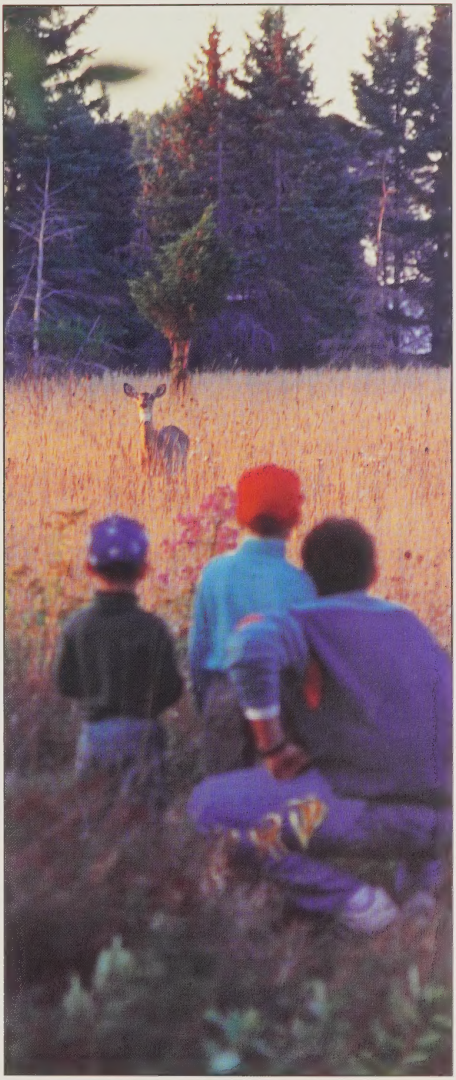
INTRODUCTION

White-tailed deer have fascinated people for centuries. This graceful animal has long been an important part of the diet and folklore of North America's native peoples. Europeans first encountered the white-tail *(Odecoileus virginianus)* almost four hundred years ago in the colony of Virginia. It's not likely that they or the early scientists who gave this animal its Latin name *(Odecoileus virginianus)* realized that this successful species ranges from South America north into Canada. Ontario serves as one of the white-tailed deer's northern range boundaries and Presqu'ile Provincial Park's varied habitats provide an excellent home for these animals.

The old agricultural clearings such as the fields around the Calf Pasture boat launch house numerous apple trees which supply an important fat building autumn food source. Several stands of coniferous trees found throughout the park provide the necessary cover to protect deer from the elements during winter. During the spring and summer, thick maple and beech woods such as those found along the Jobes' Wood Trail provide cover for newborn fawns and food for the nursing does.

This booklet is designed to better acquaint the thousands of people who come to Presqu'ile Park in search of these graceful creatures. White-tails lead a private existence, allowing only short glimpses of their lives. It is the goal of this publication to fill in the gaps and give the Presqu'ile's visitors an opportunity to observe and learn more about the secretive lives of white-tailed deer.



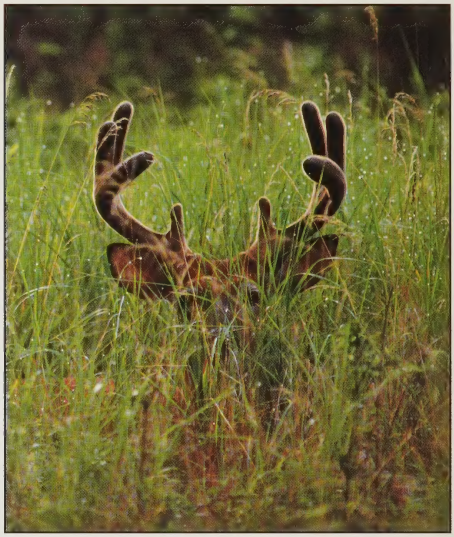
Thousands of people come to Presqu'ile each year to catch a glimpse of the park's largest mammal - the white-tailed deer.

ANTLERS

Antlers are one of the most fascinating aspects of white-tailed deer biology. Unlike horns, antlers are grown annually and appear only on male white-tailed deer. Each spring antlers begin to form on a knoblike structure (called a pedicle) which emerges from the frontal bone of the skull. The antlers grow at varying rates depending on the age of the buck and the abundance of the food. Young males (1 to 4 years old) must put more energy into bodily growth and thus develop smaller antlers. Mature males which have reached their optimal physical (5 to 7 years old) size can afford to put more energy into growing larger antlers. Bucks which inhabit areas where food resources are abundant usually grow antlers at a faster rate and develop a larger rack of antlers than bucks which live in areas where food resources have been depleted or are of lower nutritional value.

While the antlers are growing they remain relatively soft and sensitive, and are ensheathed by a tissue called "velvet". Velvet supplies the growing bone with blood. The blood rich velvet is irresistible to biting insects such as mosquitoes and deer flies. This may explain why bucks can often be found in open areas during late spring and early summer. Open clearings house fewer biting insects, possibly due to a faster air flow and less sheltering vegetation. During the early stages of antler growth bucks may also avoid densely forested areas to reduce the risk of injuring their sensitive antlers.

By mid-August the antlers have finished growing and begin to harden. As they become more solid, the blood supply ceases, and the velvet dries up. During early September bucks will remove the velvet from their fully hardened antlers by rubbing them against trees. The hardening of the antlers and the shedding of the velvet is triggered by the decreasing daylight, or photoperiod. Shed velvet



During the spring and summer male white-tailed deer are easily recognized by their "velvet" covered antlers. At Presqu'ile and elsewhere they are often observed in fields, possibly due to the fewer biting insects in open areas which irritate the blood-rich antlers.

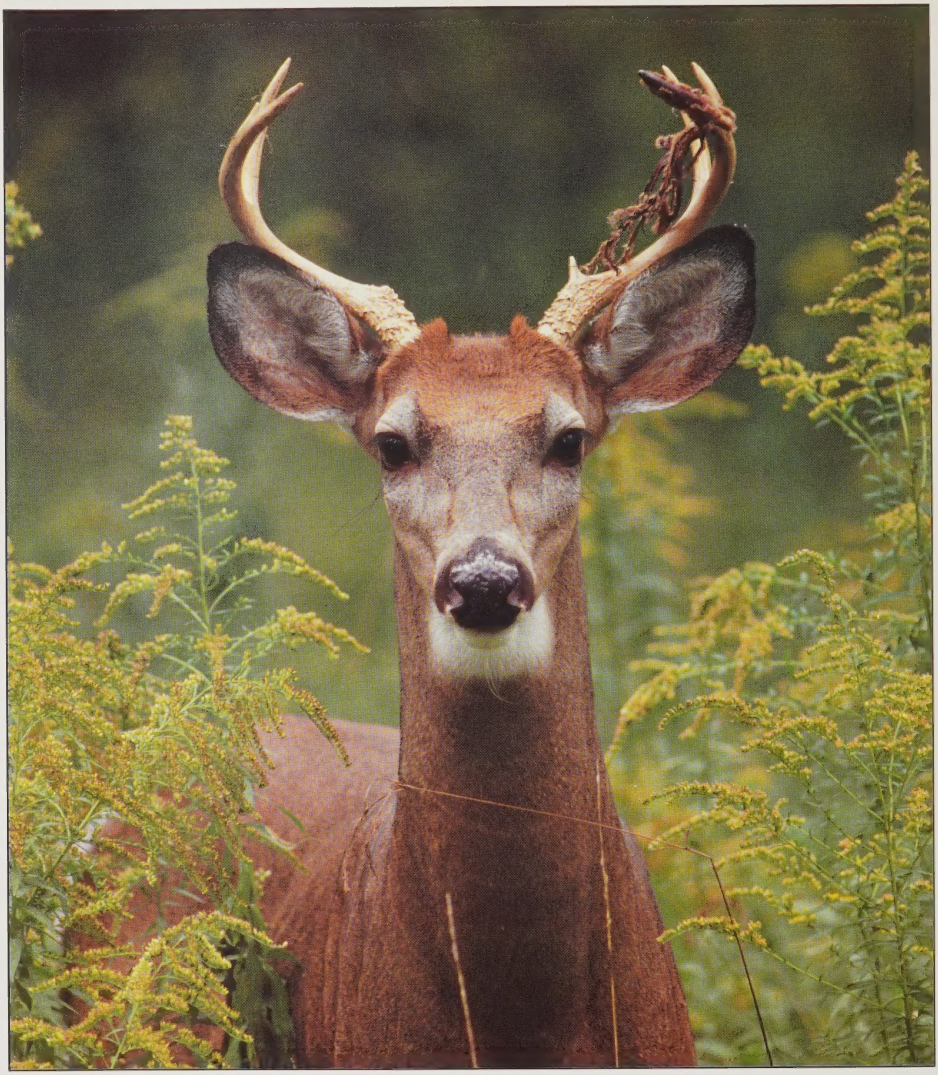
is rarely found because the buck will often eat it as soon as it is rubbed off.

Velvet is a particularly interesting because it is the only mammalian tissue which can develop hair follicles after birth. Study of velvet could someday lead to the discovery of a treatment for hair loss in humans!

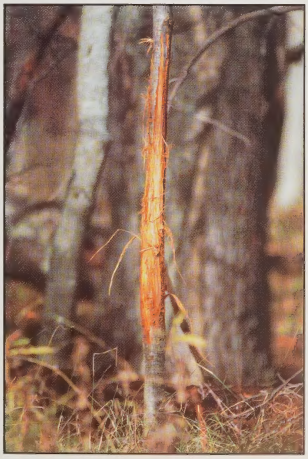
Bucks grow antlers to establish dominance hierarchies for the "rut", or mating season. Dominance hierarchies are formed from September to mid-October. During this time, if a buck encounters another buck they will gently place their antlers

Antlers grow from April to August, with a mature males' growing up to one half inch per day. "Velvet" supplies the antlers with blood to nourish the developing bone. Studies of velvet may someday provide a cure for human hair loss!

together and push back and forth until one of the two animals is determined to be dominant. These sparring matches often lack intensity and sometimes may be perceived as a form of play. A sparring match may last a few seconds or continue for several minutes. Two bucks may spar several times before establishing which is the dominant male. Most sparring matches occur between members of the same "bachelor group". A bachelor group is a group of about three or four males which remain together throughout the summer months. By mid-October these groups have broken up and bucks become solitary for the remainder of the rut. The formation of dominance hierarchies prior to the rut decreases the number of serious contests or fights which might otherwise occur during the breeding season. If two bucks have sparred prior to the rut the less dominant buck will submit a doe which is in estrous, or heat, to the more dominant buck.



Bucks spar with each other throughout the early fall to establish dominance hierarchies. This sparing ultimately reduces the amount of serious fighting which might otherwise occur during the mating season.



Right:
Bucks rub trees throughout the fall to display their presence to nearby does. Dominant bucks produce the majority of rubs in an area.

Opposite page:
By early September the antlers have hardened and the velvet is shed by a buck when he rubs his antlers on a tree. Shedding velvet is rarely seen as this process takes less than twenty-four hours. Note the shedding velvet still attached to this buck's left antler.

Younger bucks grow smaller antlers than the more dominant, five to seven year old bucks because they have to invest large amounts of energy into their growing bodies. Older bucks put this energy to use by growing large antlers. Younger bucks are also often less cautious, making them more visible than the older bucks.

Bucks drop their antlers between late December and February depending on the levels of male sex hormone (testosterone) in the buck's blood. Bucks which were successful during the mating season experience a drop in hormone levels before less successful bucks and hence loose their antlers earlier. Note the swollen neck muscles of this buck which may be put to use in sparring matches.

Occasionally two bucks of similar size will encounter each other while in pursuit of a doe in heat. If these two bucks did not spar prior to the rut they may engage in an intense fight. When this occurs, the two bucks put their antlers together and push with extreme force. These fights often last several minutes or longer. Such fights sometimes result in broken antlers or bodily injury, and on very rare occasions, locked antlers. Locked antlers usually result in death to the animals due to starvation or predation.

Antlers are also used to create "rubs" on trees to communicate a buck's presence during the rut. To do this a buck will push his antlers against a tree and move his head vertically removing bark from a portion of the tree between one to four feet off the ground. While rubbing the buck deposits his scent from forehead glands onto the tree.

After the calcium-rich antlers fall to the ground they are eaten by gnawing mammals such as chipmunks, squirrels and mice. Although most antlers are eaten the winter they are dropped a large antler may take two to three years to be consumed.

Contrary to popular belief, the number of points on a buck's antlers does not indicate age. Rather it is the overall mass of the antlers that changes as a buck matures. Antler size increases until a buck's prime (5 to 7 years old) after which the size and symmetry of the antlers declines. Each buck's antlers are uniquely shaped (note the tall vase-like antlers on this deer) regardless of the age of the deer.

From December to February antlers are dropped. The variation in the time of dropping is due to differences in testosterone levels of different bucks. Bucks which have high testosterone levels, possibly due to their lack of breeding success, maintain their antlers longer than bucks with low testosterone levels. By dropping their antlers, bucks are relieved of extra weight which must be supported by their head and neck muscles. This ultimately allows for energy conservation during the harsh winter months. Dropped antlers play an important role to several species gnawing mammals, such as chipmunks and mice which consume them because they are a rich source of calcium.

MATING

The mating season or "rut" of white-tailed deer occurs in autumn when the doe's enter their "estrous" or heat cycle. If a doe does not successfully breed during her first cycle she will enter a second cycle twenty-eight days later.

The "rut", or mating season of white-tailed deer occurs each fall from mid-October to December. At Presqu'ile, the peak rutting period occurs in mid-November. The actual timing of courtship behaviour is controlled by the doe's "estrous", or heat cycle. At this time the bucks sex hormone levels (testosterone) are at their peak; resulting in increased restlessness and aggression.

When a doe comes into heat her urine possesses a smell which bucks can detect due to the presence of sexual "pheromones". These pheromones alert male deer of a doe's readiness to breed. When a buck encounters urine deposited by a doe in heat he will often taste it to determine her state of estrous. If interested, a buck will then track the doe continuing to test her state of estrous by curling his upper lip and inhaling air. The inhaled air is directed towards a sensory organ in the upper oral region which detects the doe's sexual pheromones. This behaviour is called "flehmen".

Once a buck locates a potential mate, courtship begins with the doe leading the buck on a chase; possibly to test his fitness. A doe will often lead a smaller, less fit buck on a longer chase than she would a larger, more dominant buck. Following the chase, the buck will approach the doe and sniff her genitalia to confirm her state of estrous before engaging in copulation.

While together, a buck and doe will copulate several times. They will also often bed down for periods of rest between matings. The buck will usually guard the doe from other less dominant bucks during her peak period of estrous. However, if a more dominant buck encounters the mating pair he will intimidate and scare off the tending buck and engage in courtship with the doe. A doe's period of estrous only lasts for about one day. If

As Presqu'ile's forests transform from the green hues of summer to autumn's rainbow of colour, the white-tailed deer mating season begins. Deer breed from mid-October to mid-December with the peak period of activity around mid-November.

she is not successfully bred in this time she will enter another period of estrous approximately twenty-eight days later.

When a doe has passed her peak of estrous the attending buck will leave in search for another doe in heat. This constant searching leaves little time for browsing and potentially poses a threat to the buck's fitness during the upcoming harsh winter months.

By the time mating season arrives most bucks have sparred with other local bucks to establish dominance hierarchies. On occasion, two bucks of similar size may encounter each other while in pursuit of a doe. When they meet, they typically engage in an intense sparring match, or fight to decide who will breed the doe. Sometimes these fights may lead to injury if one of the bucks is gored by the antlers of his opponent. On rare occasions the antlers of two bucks may become

locked, resulting in death due to starvation or predation. The number of intense fights during the rut is dictated by the "buck to doe ratio" in a given area. The more bucks present per doe, the more fights. 1994's summer survey indicates that Presqu'ile's buck to doe ratio is one to three.

During the rut a buck often identifies his presence to other deer by leaving "rubs" and "scrapes". A rub is created when a buck removes the bark from a tree or sapling with his antlers while, at the same time, deposits the scent from his forehead gland onto the exposed tree. A scrape is

The largest and fittest buck is usually the most successful buck as he is established at the top of that area's "dominance hierarchy". The less dominant bucks always submit a doe in heat to the more dominant buck. However, when the dominant buck is courting a doe, less dominant bucks will take the opportunity to court and possibly breed with other does.

When a buck locates a doe in heat he will inspect her to determine her readiness to breed. The doe's sexual "pheromones" will alert the buck to her state of readiness (estrous). If the doe is in her peak state of estrous mating will follow.

Right
If a buck is accepted by the doe, a white-tailed pair will mate many times over several hours. After the doe has passed her peak state of estrous the buck will then leave in search of another doe.

made when a buck uses his front hooves to expose an area of soil of about two square feet. After making the scrape the buck will urinate on it and nibble off an overhanging twig to deposit his scent, thus advertising his presence to any passing does. When a doe in heat encounters a scrape she will often urinate on it to alert the buck of her presence. A buck will usually check his scrapes daily for any sign of passing does.

Although several months away from the fawning season, the timing of the rut plays an important role in ensuring the survival of the fawns. White-tailed deer have a gestation period of about two hundred days which enables most fawns to be born during June when food resources are at an optimum. The abundance of new foliage also provides an effective hiding place for the newborn fawns.

In December, a minor second rut occurs when the unfertilized does enter their second period of estrous. If conditions are ideal many of the female fawns born the previous spring (up to forty percent) also breed at this time. If nutritionally stressed, doe-fawns and yearling fawns will not breed. Male fawns do not breed until their second autumn.

FAWNING

During their first few weeks of life fawns spend most of their time bedded as a method of defence from predators. Their white spots and lack of scent help them hide in the lush spring vegetation.

Each spring as the forests become green with new plant growth, white-tailed does give birth to the next generation of fawns. Most fawns are born in June, after a two hundred day gestation period. It is critical that the fawns are born at this time to ensure that there is an abundance of new foliage to feed and shelter both the does and their fawns. Nursing does require large amounts of browse to meet the high demands of lactation. The almost helpless fawns hide in the dense spring vegetation.

An adult doe can give birth to one, two, or three fawns depending on her age, health, and the availability of food. Under ideal conditions, does in the prime of life (5 to 7 years old) typically give birth to twins. Younger or older does usually only have one fawn. Overall, almost half of adult does in a healthy population give birth to one fawn and the same percentage have twins. Five percent or fewer have triplets.

The severity of the previous winter influences fawn productivity. Harsh winters with deep snow and little food resources stress pregnant does. This may result in the reabsorption of one or more of the fetuses before they are born. This unconscious survival mechanism allows a doe to lower her energetic demands during the critical, late winter months. Without such a mechanism the lives of both the doe and her fawn could be lost.

Throughout late May and June fawns are born covered with white spots and have virtually no scent. These factors serve as defence mechanisms for the young deer. The spots which mimic the dappled sunlight pattern of a forest floor combined with their lack of scent effectively hides fawns from predators. Even though fawns can walk within a few minutes of birth, their speed and agility are not adequate to outrun most predators during their first few weeks of life. Fawns therefore, spend almost all their time bedded in secretive locations during this vulnerable stage.

Does also avoid drawing attention to their helpless offspring by not staying too close. Every four hours or so a doe will return to where her fawn(s) are bedded to nurse them. It is very important for anyone stumbling upon young fawns not to disturb them. They may appear abandoned but it is certain that their mother is nearby.

By mid-July the fawns are strong enough to accompany their mothers on feeding excursions. It is at this time that many fawn sightings are made, especially at dawn and dusk in feeding areas, such

As the summer progresses fawns become stronger and are able to outrun most predators. By late July they begin to accompany their mothers on daily feeding excursions. Late July to early September is the best time to see spotted fawns. By mid-September all but the late born fawns have lost their spots making them look like small versions of the doe.

After the fawns have lost their spots it becomes increasingly difficult to distinguish between adults, yearlings and fawns. The easiest method is to study the shape of their skulls. Fawns have skulls which are considerably smaller and shorter than adult deer. The location of a fawn's eyes is about half way between the ears and nose, where an adult's eyes are located about one third of the skull length away from the ears. Body size is another general way to determine the age of a deer.

as the fields surrounding the Calf Pasture boat launch area at Presqu'ile. By mid-July, fawns are feeding on plants as well as nursing.

By early September, white-tail fawns begin to lose their spots when they moult their summer hair for darker brown, fall hair. They no longer require spots for camouflage because they are able to outrun most predators, and thus, spend less time in hiding.

Fawns remain in the company of their mother until they are one year old. Prior to giving birth to her new fawn(s) a doe will chase away her yearling offspring. The most likely explanation for this behaviour is to minimize the risk to the new fawn(s) by way of the yearlings drawing attention to the helpless newborn(s). By the end of the summer some of the yearlings may regroup with the doe for another winter.

In the fall it often becomes difficult to distinguish between adults, yearlings, and fawns. One method to visually determine age is to closely examine the skull structure. Fawns have smaller skulls with a shorter nose. Their eyes are located about half way between their ears and the tip of their nose. Yearling deer have a slightly longer nose with eyes located closer to their ears than to the tip of the nose. Adult deer develop a wider skull and an even longer nose, and their eyes are located one third of the skull length away from the ears. Although considerable overlap and sexual differences occur, body size can also be used as an indicator to distinguish between age groups.

As autumn progresses into winter, fawns and adult deer grow thick coats of dark brown fur. The individual hairs are hollow allowing them to trap a layer of insulating air. Fawns remain with their mother until the following spring.

COMMUNICATION

Vocalizations

Although generally percieved as quiet animals White-tailed deer are capable of making a large variety of subtle sounds. These vocalizations can be generally categorized as bleats, snorts and wheezes. Snorts and wheezes function as alarm signals. Bleats and grunts serve a variety of communication purposes.

Stomping

When deer are suspicious of a nearby creature such as a person walking by, they may stomp on the ground with their front hooves. As well as warning other deer that danger may be nearby stomping may serve to encourage the threatening animal to more fully expose itself making it more visible to the deer.

Tail

In the past it was thought that the function of the white-tail's tail was to warn nearby deer of a potential threat such as a stalking coyote. Today most deer researchers believe that instead of serving to warn other deer the tail is used to inform the stalking predators that the deer has spotted it. In essence the deer may be saying "I see you - try to catch me if you want to but I am faster than you". As far as deer are concerned the safest place for a slower moving predator is behind them.

Glands

White-tailed deer possess several glands which secrete "pheromones" or chemicals important in communication. Of of these glands, the tarsal glands are located on the hind legs. Bucks produce a musky odour when they urinate over this gland during the autumn breeding period. Glands found between the hooves called "Interdigital Glands" scent the ground as a deer walks. Forehead glands leave another chemical message on buck rubs during the rut.

FEEDING

Throughout the summer deer feed on succulent leaves of many plants including wild grape, maple and oak. At Presqu'ile, apple trees are an important food source. The park's deer, like the buck pictured above, feed on both the fruit and leaves of apple trees remaining from long abandoned orchards.

White-tailed deer belong to a group of plant-eating animals known as "ruminants". A ruminant is an animal with a four-chambered stomach designed specifically to digest plant material. The first three chambers house gut bacteria which help digest the tough plant material known as cellulose. In the first and second stomachs, ingested plant tissue is fermented by the bacteria, reducing it to a softened mass. Deer, like other ruminants (cattle, sheep etc.) then regurgitate the softened mass for more chewing (i.e. - they chew their cud). When the food is swallowed a second time it is sent to the third and fourth stomachs which contain digestive enzymes for further breakdown.

Deer have evolved teeth which best suit a "browsing" lifestyle where they eat vegetation between one and five feet above the ground (twigs, needles and leaves). Unlike cattle, bison and many other ruminants deer rarely "graze" on ground-hugging vegetation. Most of a white-tail's teeth are premolars and molars. These teeth are composed of hard and soft layers that wear unevenly; maintaining a sharp, sawlike edge. Deer have lower incisors but interestingly do not require upper incisors to nip off browse.

White-tailed deer are "crepuscular" in their feeding activity. Unlike nocturnal or diurnal animals which are most active at night or during the day, crepuscular animals such as deer are most active at dawn and dusk. Each evening, deer migrate from their sheltered day beds to areas where food resources are plentiful. At Presqu'ile these areas are typically the edges of forest clearings or around abandoned apple orchards. These preferred locations are not usually exploited throughout the day, probably because the deer would be exposing themselves to predators. Deer do often remain in these preferred areas throughout the night. By

White-tailed deer are "crepuscular" in their habits. This means they are most active during the dawn and dusk hours. Each evening Presqu'ile's deer can be seen migrating from their day beds to preferred feeding areas. Shortly after dawn they again return to their day beds.

dawn, they have browsed until they are sated and return to their day beds to chew their cud.

The white-tail's daily feeding migrations can be inhibited by adverse weather conditions. On rainy, windy, or snowy days deer often remain within the shelter of their day bed areas. This behaviour may occur because their sense of hearing and, or smell is reduced during inclement weather. Although generally quiet, deer also occasionally browse and drink water in their day bed areas.

Seasonal variations in Ontario's environment cause our deer to change their diet to suit the browse which is available. In spring, deer take advantage of the new, increasingly abundant green foliage on the forest floor, shrubs, and saplings. During this season of abundance, deer feed on succulent browse, such as maple, oak, and wild grape leaves. They do not feed on grasses as grasses are very fibrous and do not contain the same nutritional value as the more succulent broad leaved plants. The rich food resources present during the

Favourite food sources such as apple trees are often browsed heavily by deer creating a browse line. As more of the tree is eaten, the browse line is raised. Eventually the deer must stand on their hind legs to reach their food.

White-tailed deer spend much of their time at lying at rest "chewing their cud". This behaviour is typical of a group of animals called "ruminants" to which deer belong. Ruminants fill one of their four stomachs with plant material to be further chewed at a later time.

spring and summer are especially important for lactating does to provide enough food energy to nurse their fawns.

As fall approaches and frost kills summer's lush greenery, white-tails are forced to find other sources of browse, such as apples and acorns. This causes a shift in the daily routines of the deer. Instead of using their summer migration routes to preferred areas of browse, they alter their routes towards new food resources such as the abandoned orchards around the picnic areas at Presqu'ile.

When the winter snowfalls cover the ground the white-tail's season of hardship begins. Deer must again find other sources of food; such as the

Although white-tailed deer acquire some of their water from their food they also can be seen drinking from woodland pools.

needles of coniferous trees like hemlock and white cedar, or the small twigs of maple, oak, or dogwood. In agricultural areas the resourceful whitetail will gleen leftover corn from fields. In suburban areas deer have even been observed feeding at bird feeders!

If the snow becomes deep, deer will group together in heavy stands of conifers, often located in swampy areas. This behaviour is called "yarding". One advantage of yarding is that a large number of deer can pack down trails in the snow providing easier access to food resources. The packed down trails also serve as easy escape routes from predators such as coyotes. As well, the more deer that are present in a yard, the more eyes there are to watch for predators, increasing the odds of escape. A further advantage to yarding is one of warmth. When a group of deer bed down under coniferous trees like the hemlocks common at Presqu'ile, the dense, low limbs trap the deer's body heat increasing the temperature of their immediate environment.

During the winter deer browse is limited to the needles of coniferous trees like cedar and hemlock and the twigs of deciduous trees and bushes. If the snow becomes deep enough deer will group together in "yards" under the shelter of coniferous trees.

While yarding offers many advantages one potential disadvantage to yarding is the increased competition for the local food resources. Indeed, many instances have been recorded where deer have exhausted available food within a yard and died of starvation.

Like most aspects of white-tailed deer biology feeding behaviour is based on a dominance hierarchy. Dominant individuals often temporarily control rich food resources. For example, a dominant doe may chase off other does and younger deer from a favoured apple tree while she is browsing on it. Usually, such a deer will only display aggression over small food sources, such as a group of apples rather than an entire feeding area. When the most dominant deer is satisfied, then the less dominant deer may move in and browse. The adult bucks are usually at the top of the hierarchy, followed by adult does, yearlings, and fawns.

PEOPLE & DEER

In parks like Presqu'ile deer have become habituated to people, creating an excellent opportunity to study them.

In Ontario and elsewhere, white-tailed deer populations have been growing throughout the twentieth century, especially over the last few decades. Most authorities feel that more white-tailed deer live now than lived before European settlement of North America. Of the major factors responsible for this population growth most are caused by people.

Two long term changes which have benefited deer include; the clearing of North America's primaeval forests and the virtual elimination of large predators (Timber Wolves and bears) throughout much of the white-tail's range. The development of forests into agricultural land (if not taken to an extreme) provides ideal deer habitat - a mosaic of woodlots, cropland, and pasture areas. Feeding opportunities exist along the forest edges while secret locations for hiding fawns can be found in the woodlots. Presqu'ile's diverse mix of wooded areas and open fields are an excellent example of this type of landscape.

For millennia, deer coexisted with predators throughout most of their range. They hence developed a variety anti-predator survival mechanisms. The most important of these is the white-tail's ability to produce large numbers of offspring. If plenty of food is available a female deer typically produces two fawns each year and forty percent of the doe-fawns born can be breed in their first year of life. The resulting high fertility rate provides an excess of offspring of which many would typically be "cropped off" by predators. Without this natural harvest, white-tailed deer can rapidly increase their numbers.

Currently, the most important white-tailed deer population control factors are winter weather conditions and human hunting activities. Severe cold and

Occasionally deer may become so tame that people can feed them. This is an unfortunate situation as these tame deer can suffer, even die from eating the wrong types of food.

deep snow affect deer populations in two ways. The obvious way is through the death of large numbers of adult deer by way of starvation and secondary complications such as disease. A less obvious but more important way winter weather affects deer numbers is by lowering the population's overall reproductive output. Stressed does have been known to abort and absorb their own fetuses. Fawns born after a severe winter are usually underweight and suffer high infant mortality. The doe-fawns that survive do not breed in their first autumn and often do not breed in their second autumn. This lowered reproductive output is compounded when food resources are limited resulting in a very quick reduction the size of a deer population. If winter weather conditions are favourable the reverse is also true and deer herds can grow very rapidly.

Humans throughout most of the white-tail's range now fill the niche once occupied by natural predators. Hunting by people currently provides the only reliable way of cropping off a population's surplus animals. If the combined mortality from all factors including hunting does not balance deer numbers and their resources, then disease, starvation, malnutrition, social stress brought about by crowding along with other factors will bring the population in check. Unfortunately, these control measures are slow to take place and severe degradation of natural habitat can occur. This situation may be occurring in many areas including Presqu'ile.

Coyotes are the only natural deer predators remaining at Presqu'ile. Despite their slang name of "Brush Wolves" it's hard to say how effective these

Collisions with automobiles are now one of the most significant mortality factors for white-tailed deer. White-tails and many other animals active during the darkness often become confused in the headlights of oncoming vehicles.

large canids are at catching deer. Although generally thought to specialize at catching and eating small mammals, coyotes can catch deer, especially when a layer of ice has formed on top of deep snow. Old, sick or young white-tails are particularly vulnerable to predation by coyotes. A more significant threat to Presqu'ile's white-tail's, especially during the winter season are stray dogs.

Although dogs do not usually catch healthy deer, they do pose a threat to deer just by chasing them during the winter. During this season of limited food white-tails must conserve their precious fat deposits. Even a few chases can result in a doe producing an underweight fawn which is unlikely to survive its first year. Bucks are even more vulnerable as they enter winter with reduced fat reserves due to the demands of the rut. This potential threat to deer is one of the reasons why it is Provincial Park policy that all dogs must always be secured on lead.

People also influence deer by feeding them. Deer become dependent on the handouts and may

lose their ability to efficiently find food on their own. Feeding also creates a false sense of trust between deer and humans. A tame buck in rut can be a dangerous animal. Several people across North America have been injured by these restless, aggressive creatures. Wild, uncorrupted bucks pose no threat to people because of their timidness towards humans. The best food to provide deer is none at all. At places like Presqu'ile one can still get close enough to enjoy the presence of deer without feeding them.

Coyotes and stray dogs are the most significant predators to Presqu'ile's deer. While it's uncertain to what extent coyotes catch deer there's little doubt that stray dogs kill many. Although relatively few deer are actually caught by dogs the extertion of frequent and extended chases, (especially during the winter) can cause deer to exhaust their energy reserves. This results in loss of fawns and increased mortality due to disease and exposure.

SENSES

Ears

The large ears of white-tailed deer can rotate independently of each other making it possible for deer to listen for noises from many directions without turning their head. One ear may point forward listening in front of the deer while the other may point back or to the side.

Eyes

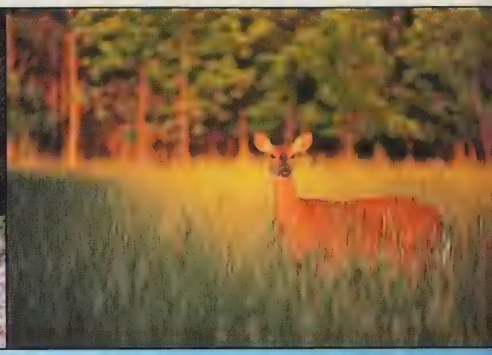
White-tailed deer have large eyes located on the sides of their skull allowing them to see in almost all directions at once. Deer readily detect movement but sometimes have difficulty discerning shapes. Whenever they can't visually make out a suspicious shape they rely on their other senses. Deer, like many animals, can see well at night due to a light sensitive layer in their eyes called the "tapetum lucidum". This extra layer is what shines in automobile headlights. Deer are not truly colour blind but rather see a narrower colour spectrum than humans. For instance they see red and oranges to be earth tones like brown.

Nose

White-tailed deer have a large nose capable of detecting the faintest odours. It is thought that a deer can smell a person from over one mile away. Deer also use their nose to pick up pheromones produced from the glands of other deer. Pheromones are used in communication; they may relay the location, mood or sexual readiness of other deer; warn of potential danger; or be used to mark territories.

DISTRIBUTION

The "Fingers" area of Presqu'ile house deer throughout the year. In spring and summer deer feed in the marsh adjacent to these coniferous clad points of land. In winter the densely forested fingers provide food and shelter.

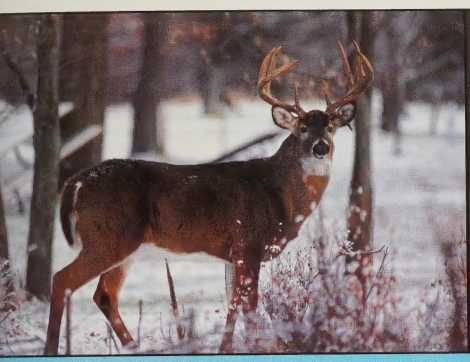


Presqu'ile's field areas such as the clearings around Gulf Pasture boat launch are used by deer throughout the spring, summer and fall. Deer visit to feed in these areas at dawn and dusk and throughout the night.

The unique habitat diversity of the Presqu'ile Peninsula makes it an excellent place for deer to live. Although white-tailed deer can be seen throughout Presqu'ile Park most of the year they prefer certain habitats in different seasons.

Aerial photo of the Presqu'ile Peninsula looking south from the Main Gate area.

Kelly Tobey photo



When the number of summer campers diminishes in the autumn Presqu'ile's deer take advantage of the abandoned apple orchards near the picnic and camping areas. These food sources last into the early winter.

Hardwood forests such as those found around the Jobes Woods Trail are used by deer throughout the spring, summer and fall. In spring does give birth to their fawns in these forested areas as they provide excellent hiding locations. In summer deer use forested areas as sheltering day beds most likely to lower their visibility to potential predators.

Aerial photo of the Presqu'ile Peninsula looking north from the Calf Pasture area.

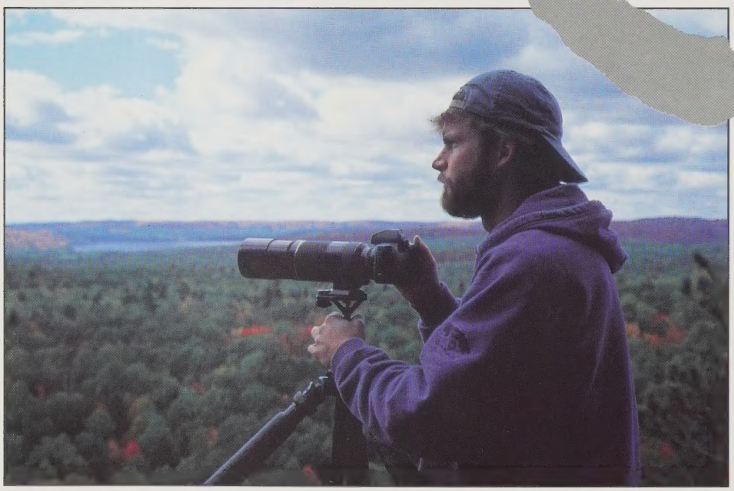
Kelly Tobey photo

About the Friends of Presqu'ile Park

The Friends of Presqu'ile Park is a non-profit organization of volunteers who share a great love for Presqu'ile Park. Established in 1988, the Friends main goal is to cooperate with park staff in supporting education and research programs pertaining to the resources of Presqu'ile Park. With this goal in mind the Friends of Presqu'ile Park is proud to present *The White-tailed Deer of Presqu'ile Park.*

About the author

Mark Raycroft has been studying and photographing Ontario's wildlife for several years. His work has appeared in many of Canada's top sporting magazines. Mark's intimate knowledge and devotion to white-tailed deer has enabled him to study them in rarely seen situations. Mark is presently completing an honours degree in wildlife biology at the University of Guelph.



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